UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/527,634	10/07/2005	Martyn Vincent Twigg	JMYT-347US	2199

23122 7590 06/26/2006

RATNERPRESTIA
P O BOX 980
VALLEY FORGE, PA 19482-0980

EXAMINER	
NGUYEN, TU MINH	
ART UNIT	**PAPER NUMBER**
3748	

DATE MAILED: 06/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/527,634	TWIGG ET AL.	
	Examiner	Art Unit	
	Tu M. Nguyen	3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,13-21,25,30-34 and 36-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,13-21,25,30-34 and 36-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *20051010,20060413*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. An Applicant's Preliminary Amendment filed on March 14, 2005 has been entered. Claims 4-12, 22-24, 26-29, and 35 have been canceled; claims 1-3, 13-21, 25, 30-34, 36, and 37 have been amended; and claims 38-40 have been added. Overall, claims 1-3, 13-21, 25, 30-34, and 36-40 are pending in this application.

Specification

2. The abstract of the disclosure is objected to because the use of legal phrase "comprising" and open ended phrase "means". Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office Action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 1, 3, 13, 14, 16-21, 25, 34, and 36-39 are rejected under 35 U.S.C. 102(a) as being anticipated by Schafer-Sindlinger et al. (PCT Publication No. WO 02/26379) (see U.S. Patent Application 2004/0065078 for the English equivalence).

Re claims 1, 34, 36, and 37, as shown in Figure 1, Schafer-Sindlinger et al. disclose an apparatus and a process for operating said apparatus, the apparatus comprising:

- a diesel engine operable in a first, normal running mode (normal mode; see paragraph 0041) and a second mode (regeneration mode; see paragraphs 0043 and 0044) producing exhaust gas comprising an increased level of carbon monoxide (CO) relative to the first mode, wherein the second mode, a value of at least one measurable parameter (exhaust gas temperature; see paragraph 0020) indicative of a condition of the engine is outside a pre-determined range;

- means (fuel injector) to switch engine operation between the two modes (see paragraph 0043); and

- an exhaust system comprising a catalysed component (1) comprising a substrate monolith comprising a palladium (Pd) catalyst supported on a first support material associated with at least one base metal promoter (first group of components comprises at least one platinum group metal and at least one oxygen storage component) and a platinum (Pt) catalyst associated with the supported Pd catalyst (second group of components comprises a support material and at least one platinum group metal) (see Abstract),

wherein the catalysed component (1) is selected from a catalysed soot filter.

Re claims 3 and 39, in the apparatus of Schafer-Sindlinger et al., the substrate monolith further comprises an arrangement of a supported catalyst selected from a first layer (second group of components) comprising the Pt catalyst and a second layer (first group of components) overlying the first layer, which second layer comprising the supported Pd catalyst and the associated at least one base metal promoter;

Re claim 13, the apparatus of Schafer-Sindlinger et al. further comprises an engine control means, wherein the engine control means comprises an engine control unit (ECU) (not shown but inherently must have).

Re claim 14, in the apparatus of Schafer-Sindlinger et al., the means for switching between the two modes switches between the first mode and the second mode when the temperature of the supported Pt catalyst is < 250°C (see paragraph 0020).

Re claims 16-18 and 20, in the apparatus of Schafer-Sindlinger et al., the at least one base metal promoter is selected from a reducible oxide, wherein the at least one reducible oxide is selected from the group consisting of MnO_2, Mn_2O_3, Fe_2O_3, SnO_2, CuO, CoO, and CeO_2 (see the last 4 lines in paragraph 0034)

Re claim 19, in the apparatus of Schafer-Sindlinger et al., the reducible oxide is dispersed on the Pd catalyst support material.

Re claim 21, in the apparatus of Schafer-Sindlinger et al., the at least one base metal promoter is selected from one basic metal, wherein the at least one basic metal is selected an alkaline earth metal selected from the group consisting of barium, magnesium, calcium, and strontium (see paragraph 0034).

Re claim 25, in the apparatus of Schafer-Sindlinger et al., the support material is selected from the group consisting of alumina, silica-alumina, ceria, magnesia, titania, zirconia, a zeolite, and mixtures, composite oxides or mixed oxides of any two or more thereof (see paragraph 0035).

Re claim 38, in the apparatus of Schafer-Sindlinger et al., the Pt catalyst is supported on a second support material (aluminum oxide).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office Action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 2, 15, 32, 40 and 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schafer-Sindlinger et al. as applied to claims 1 and 38, respectively, above, in view of legal precedent.

Re claim 2, the apparatus of Schafer-Sindlinger et al. discloses the invention as cited above, however, fails to disclose that the engine is configured to produce exhaust gas comprising more than 2000 ppm CO when running in the second mode.

Schafer-Sindlinger et al. disclose the claimed invention except for specifying an optimum range of carbon monoxide concentration of more than 2000 ppm to regenerate the catalysed soot filter. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a specific optimum range of CO concentration, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Re claims 15 and 40, in the apparatus of Schafer-Sindlinger et al., the Pd catalyst and the Pt catalyst are both disposed on the same support material (see paragraph 0035), wherein the or each support material is selected from the group consisting of alumina, silica-alumina, ceria,

magnesia, titania, zirconia, a zeolite and mixtures, composite oxides or mixed oxides of any two or more thereof.

Re claims 30-33, the apparatus of Schafer-Sindlinger et al. discloses the invention as cited above, however, fails to disclose that the catalysed component comprises from 30 to 300 gr/ft^3 Pd and from 30 to 300 gr/ft^3 Pt, a supported catalyst part of the catalysed component contains from 0.1 to 30.0% by combined weight of Pt and Pd based on the combined total weight of the supported Pd catalyst and the supported Pt catalyst, the supported catalyst part of the catalysed component contains a weight ratio of from 95:5 to 10:90 Pd :Pt, or the supported catalysts contain from 0.1 to 10% Pt by weight and from 0.1 to 20% Pd by weight based on the combined total weight of the supported catalysts.

Schafer-Sindlinger et al. disclose the claimed invention except for specifying an optimum range of Pt and Pd densities, percentage weight, and weight ratio. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a specific optimum range of Pt and Pd densities, percentage weight, and weight ratio, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Prior Art

7. The IDS (PTO-1449) filed on October 10, 2005 and April 13, 2006 have been considered. An initialized copy of each is attached hereto.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of five patents: Davis (U.S. Patent 4,087,384), Summers et al. (U.S.

Patent 4,153,579), Domesle et al. (U.S. Patent 4,900,517), Deeba et al. (U.S. Patent 6,375,910), and Brown et al. (U.S. Patent 6,606,856) further disclose a state of the art.

Communication

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Tu Nguyen whose telephone number is (571) 272-4862.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Thomas E. Denion, can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tu M. Nguyen

TMN

June 10, 2006

Tu M. Nguyen
Primary Examiner
Art Unit 3748